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**Original Communications.**

PROF. MEYNERT'S METHOD OF EXAMINING THE BRAIN, &c.

By JAMES J. PUTNAM, M.D.

In an interesting paper by Dr. Burt G. Wilder, entitled *Cynophrenology*, which appeared in the *JOURNAL* of Jan. 23, ult., allusion is made to the insufficiency of our present methods of gauging the relative excellence of the different mammal brains.

It is remarked with truth that neither the absolute size of the brain, nor its relative size as compared with the whole animal, nor the number or complexity of its fissures satisfactorily indicates its quality. The first test would place the brain of the elephant and the whale too high in the scale, the second, too low.

There is, however, one test, first suggested, as I believe, by Prof. Meynert of Vienna, which seems to be a satisfactory and practical one. That is, stated briefly, the relation in point of size or weight between the corp. quadrigem. and the cerebral lobes; or, in other words, the relation in point of development between the so-called "posterior division"\* of the caudex cerebri (*Hirnstamm*) with its ganglia of origin, and the "anterior division" with its ganglia, i. e. between the tegmentum cruris cerebri with the thalamus opticus and the corp. quadrigem., and the pes (or basis) cruris cerebri with the corpus striatum and nucleus lenticularis.

This latter tract (the pes cruris) is concerned, according to Prof. Meynert, almost exclusively in the transmission of voluntary impulses to the muscles, and stands, therefore, in a fixed relation to the cerebral lobes, in which the voluntary impulses are originated, throughout the entire mammal series. The development of these two structures, viz., pes cruris and cerebral lobes, culminates in the brain of the adult man, whereas the tegmentum cruris with the corp. quad. &c. find their greatest development in the brains of the lower mammals, as the following table will indicate:—

\* Compare: *The Anatomy of the Mammal Brain*, by Theodor Meynert, Stricker's *Manual of Histology*, American Edition; also, an analysis of the same in Brown-Sequard's *Archives of Scientific and Practical Medicine* for February, 1873; also, *Ueber die Bedeutung der Zweifachen Rückenmarksprunget vom Grosshirn*. *Sitzungsberichte der Königl. Academie der Wissenschaften* Bd. lxi., H. iii.

	Man. Per cent.	Ape. Per cent.	Deer. Per cent.
Height of basis cruris cer. compared with that of tegmentum	1.1	1.3	1.5
Weight of cerebral lobes compared with that of of entire brain	78	70.8	62
Weight of corpus striatum, with the nucleus lenticularis, compared with that of the entire caudex cerebri	50	40	33.3
Weight of thalamus opticus compared with that of the entire caudex cerebri	19	22.9	30

A table is annexed to the paper "Ueber die Bedeutung des Zweifachen Ursprunges des Rückenmarkes, &c.," showing that, among the large number of mammals examined with reference to that point, in none did the development of the pes cruris equal that to which the corresponding part of the human brain attains.

This seems a not unsuitable place for recording Prof. Meynert's manner of examining the brain in the autopsy room, which is of value because it permits, more than any other, of the exact localization of defined lesions, without at the same time so mutilating the parts as to make them unfit for subsequent microscopic or other examination. The method aims, in the first instance, at the enucleation of the cerebral ganglia from their bed in the white substance of the lobes, so that all the surfaces of these parts may be freely examined.

Each cerebral hemisphere, according to Prof. Meynert, presents at both surfaces the form of an arch, of which one branch is represented by the frontal extremity, the other by the temporal extremity of the hemisphere.

The lumen of the arch of the inner surface is the lateral ventricle, of that of the outer surface the fissure of Sylvius. At the bottom of the fissure of Sylvius lies the island of Reil; directly beneath, and scarcely separated from this, is the surface of the nucleus lenticularis,\* a cone-shaped ganglion which lies crosswise in the axis of the arch. Surrounding this, in a curve concentric with that of the main arch, is the corpus striatum (nucleus caudatus), whose large anterior extremity (caput) reaches forward and downward, buried in the frontal lobe, to the anterior perforated space, where it is nearly met by the dwindling posterior extremity (cauda) which curves backward and downward along the lateral ventricle, in which it is everywhere visible, nearly to the extremity of the temporal lobe.

The proposed dissection throws these two false arches into one true arch by cutting out this ganglionic mass which fills its lumen.

The knife has for its guide, in the fissure of Sylvius, the limits of the island of Reil; in the lateral ventricle, the border of the gray surface of the corpus striatum which runs along its inner angle. The principal details of the operation are as follows.†

The brain, removed in the usual way, is laid down upon its convexity, and, the membranes having been torn away as far as is

\* Nucleus extraventricularis corp. striat.

† Given from memory; I do not know that they are to be found in print.

requisite, the temporal lobe on both sides is dissected upwards by a series of cuts opening into the lateral ventricle on one hand, and the fissure of Sylvius on the other, and made in accordance with the rule given above.

The next step is to raise the medulla oblongata and cerebellum, and tear away the membranes beneath them which cover the great transverse fissure of the brain. Then, by a second series of cuts made from behind forwards, the mass of ganglia, principally at that part the thalamus opticus, is separated from its connections with the occipital and parietal, and the posterior half of the frontal lobes.

It only remains to enucleate the caput corporis striati from its bed in the white substance of the frontal lobe. This is done by laying the knife transversely on its flat with its edge just in front of the anterior perforated space, and cutting forwards and downwards. If the cut has not been carried forward far enough to surround the bulging head of the ganglion completely, the gray color of its cut surface will reveal the fact. The entire operation, apparently so complicated, is after some practice performed in a very few moments and with great precision. If it be desirable to weigh the different lobes and ganglia separately, as Prof. Meynert is in the habit of doing, the dissection may be continued as follows; otherwise the examination may be completed by making a number of cuts into the various parts perpendicularly to their surface.

A longitudinal cut through the corpus callosum separates the hemispheres from one another.

To separate the frontal lobe from the parietal, the fissure of Rolando, inasmuch as it is a constant fissure common also to most of the apes, is chosen as a guide. The operation is best performed with a single cut of a large pair of scissors.

The parietal lobe is separated from the occipital by cutting through with the scissors from the occipito-parietal fissure into the posterior branch of the fissure of Sylvius.

In separating the thalamus opticus from the corpus striatum, one blade of the scissors is placed to the inner side of the stria cornea, the other to the outer side of the tractus opticus. The cut passes through the capsula interna with little or no injury to either ganglion. The limits of the corp. quadrigem., cerebellum and pons Varolii are sufficiently evident. The medulla oblongata ends with the completion of the decussation of the pyramids.

Prof. Meynert has divided in this way, and weighed in parts, upwards of 1000 brains, with interesting results, not yet fully made public. Among them, the disproportionate atrophy of the frontal lobes in cases of progressive paralysis of the insane, may be mentioned as having been constantly found. In one or more cases of unilateral chorea, the corpus striatum of the opposite side was found to have lost weight distinctly.

The accuracy of the results obtained in this manner is the more

to be relied on, in consideration of the fact that if a loss or gain in weight affecting any given part is only apparent, it will be found compensated for by a corresponding gain or loss in the complementary part, and the observation thereby controlled. The membranes are left adherent to the lobes to which they belong.

The thickness of the cortex cerebri may be estimated by a cut, made always at the same point, and in the same direction.\*

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## Clinical Lecture.

### DISEASES OF THE EAR.

By CLARENCE J. BLAKE, M.D.

GENTLEMEN,—It will be a great advantage to you, as general practitioners, to be able to make a proper examination of the ear. By this is not meant, simply, that you should be able to use the instruments employed for that purpose, but that you should also have a sufficient knowledge of the appearances presented by the meatus and membrana tympani in health and be able to recognize the changes which accompany disease. In the majority of diseases of the ear, it is not possible to form a positive diagnosis without such an examination; symptoms of an alarming character may result from a simple and easily remediable cause, as in the severe tinnitus aurium, vertigo and nausea, which may result from the pressure of a plug of cerumen upon the membrana tympani or the excessive pain and deafness caused by a boil in the meatus, while, on the other hand, very serious changes may occur in the structures of the middle ear, unaccompanied by any subjective symptom. The frequency with which diseases of the organ of hearing accompany other affections, makes it especially advisable for you to have some knowledge of their diagnosis; the more so, that the ability to make a careful examination will not infrequently give you the clew to the explanation of what otherwise might seem obscure symptoms.

In the subjective symptoms accompanying pregnancy and following childbed, in the affections of the middle ear accompanying the exanthematous diseases of children, in the long train of aural diseases following the catarrhal troubles so frequent in this climate, and in many other diseases all of which are liable to come under your care as general practitioners, you will find this little instrument, the aural speculum, backed by a proper understanding of its use, a most valuable addition to the armor with which you equip yourselves on entering the field of medical practice. With it you will at least be able to determine what cases are amenable to treatment, what cases require immediate treatment, and, something which is of almost equal importance, what cases judiciously to leave alone. I should hesitate in urging you to devote any special degree of study to this branch of surgery, since it has been so far elaborated as fairly to entitle it to rank as a specialty and because your general studies cover so ex-

\* For this purpose a small, graduated glass tube, with sharpened edges, which has recently been described, would be of service. A piece of the cortex is simply punched out, and examined through the glass. (v. West-Riding Hospital Reports for 1873.)

tensive a field, but it would be impossible to present to you too strongly the advantage which you will gain by some knowledge of aural surgery, provided that knowledge so far as it goes be thorough, and of this you will be able to convince yourselves in attending any aural clinic. So far as the use of the instruments is concerned, the examination of the ear is a very simple matter; to understand what is seen is much more difficult and can only be attained by repeated practice.

The parts presented to us for examination are the external auditory canal and the membrana tympani, and, in case of perforation or destruction of the latter, the inner wall of the tympanic cavity.

By turning the ear toward the light, drawing the auricle upward and backward and pressing the tragus forward, we can at most see but a short distance inward, except occasionally where the canal is unusually large and straight, when it is possible to see a portion of the membrana tympani, and that not distinctly; the view of the inner end of the canal is prevented by the double curvature of the passage and by the presence of hairs growing about the meatus. To obtain a satisfactory view, it is necessary to straighten the canal as much as possible and to push the hairs aside; the former may be accomplished by pulling the auricle upward and backward, thus bringing the long axis of the outer portion (the cartilaginous portion) of the canal in a line with the inner (osseous) portion of the canal. For the accomplishment of the latter object, various instruments have been invented. First among these, Kramer's bivalve speculum long has been and still is extensively in use. With several advantages over the simpler method of examination, this instrument possesses two very decided objections; through the openings between the valves, the hairs thrust themselves into the field obstructing the view, and the pressure upon the delicate integument lining the auditory canal, when the speculum is unduly extended as may easily be the case, is apt to cause pain and sometimes more serious results. The simple tubular speculum of von Tröltsch and other aurists accomplishes its object much more satisfactorily, and is, moreover, more readily handled. Before introducing the speculum, however, it is necessary to choose the method of illumination; for this purpose we may employ direct sunlight or direct artificial light, or, better still, diffused light (by day) thrown upon the ear from a concave mirror. Direct sunlight, as a rule, is too dazzling, the eye becomes fatigued, and we are soon incapable of distinguishing those fine points of variation in form of the membrana tympani which play so important a part in the diagnosis of aural diseases. Artificial light presents a disturbing element in the prevailing yellow color which changes the delicate shades in the coloring of the membrana tympani. Diffused light has none of these objections, and, when concentrated by the concave reflector introduced by von Tröltsch, is of sufficient illuminating power and readily under control.

The ear to be examined being turned from the light source, the light is to be reflected upon the ear from the mirror held in the hand, or fastened upon the head; the entrance to the auditory canal should first be carefully examined to detect any malformation, the presence of a foreign body, or evidence of any change, the result of disease; the auricle should then be seized between the ring and middle fingers of the left hand and drawn upward and backward, and the speculum

held in the right hand, gently introduced ; when fairly in place, it may be held by the rim with the fore finger and thumb of the left hand ; in this manner both auricle and speculum are completely under control, the right hand being at liberty to use the mirror. Two words of caution are necessary in using the speculum : firstly, do not endeavor to elevate the outer portion of the auditory canal by means of the speculum alone, move the auricle, also, in the desired direction ; unpleasant consequences might ensue from undue pressure, as in the use of the bivalve speculum ; secondly, little or nothing is to be gained by thrusting the speculum into the passage—passing the instrument beyond the line of the growth of large hairs in the meatus and proper manipulation of the auricle are sufficient to ensure a clear view. The speculum having been placed in position, the light should be thrown upon it from the reflector, care being taken to have the opening in the centre of the mirror on a line with the long axis of the speculum ; through this opening, which brings the eye of the surgeon on a line with the point of greatest illumination, the examination may be made. We look down a narrow passage, somewhat flattened laterally, about an inch and a quarter in length and lined with integument continuous with that of the auricle. This lining becomes thinner and more delicate as it passes inward, until it is finally reflected upon the membrane which terminates the external auditory canal and separates it from the cavity of the middle ear. This membrane is not a simple, but, as you know, a very complex structure, the basis of which consists of fibrous tissue arranged in two layers, the fibres of the outer layer radiating from the centre, while those of the inner layer follow the outline of the periphery of the membrane running nearly at right angles to the former. The fibres of the outer layer are continuous in a nearly equal degree throughout the expanse of the membrane, those of the inner layer, however, being massed together at the periphery and diminished in number near the centre. In addition, there is an outer or dermoid coat continuous with the integument of the meatus, and an inner or mucous coat continuous with the mucous membrane of the middle ear. Recalling the more minute description given in the lecture on the anatomy of the membrana tympani, you will perceive how admirably this arrangement of the fibres of the membrana propria and of the delicate outer and inner coats is adapted to the performance of the functions demanded of the membrana tympani, in protecting the middle ear and vibrating at the touch of the sound waves conveyed to it through the air in the external auditory canal. You will readily see, moreover, that, in consequence of disease of the middle or outer ears, this structure will be subject to variations from the normal standard in two ways principally, variations in position and variations in color ; both of these may occur intrinsically from pathological changes in the membrana tympani itself, or extrinsically as the result of pathological changes in the two divisions of the ear, between which it forms the dividing line. Removing a normal membrana tympani, which may be done by carefully dividing the incus-stapes articulation, cutting away the bone with exception of that portion in which the membrane is inserted, and examining it with regard to position, we find, firstly, that it is at an angle of about  $45^{\circ}$  to the long axis of the meatus, the lower portion being furthest inwards, and secondly, is not a plane surface like the head of a drum, but that the centre is de-

pressed, the result being that, while the general form is that of a shallow funnel, its concave surface directed outward, the sides of the funnel from the centre toward the periphery are convex outward; this may be easily illustrated by placing a weight on the centre of a drum-head, and is shown in the accompanying drawing of a section of the membrana tympani. Holding it toward the light, we find the general color to be a yellowish gray, which forms the ground tone of the color of the



membrana tympani *in situ*. This ground tone is varied in the normal ear by the reflection of the coloring of the integument lining the external auditory canal; and, the membrana tympani being semi-transparent by the reflection of light from the middle ear, the coloring of the membrana tympani, therefore, is made up from the reflection of light from the walls of the external auditory canal, from the surface of the membrane itself, from the light passing through it into the middle ear and reflected through it again from the walls of that cavity. Looking through the speculum, we find that only a portion of the membrana tympani, about four fifths of its whole surface, is visible, the contour of the floor of the auditory canal hiding the anterior inferior portion from view. In the anterior superior portion of the membrane, close to the periphery, is a projection of a yellowish white color, the short process of the malleus (*a*), and extending downward from



this point nearly to the centre of the membrane a yellowish-white line, the long process of the malleus (*b*) (manubrium mallei); at the end of the long process, and extending anteriorly toward the periphery of the membrane, we see a particularly bright spot in the form of an isosceles triangle, its apex at the end of the long process, its base extending nearly to the limit of the membrane (*c*), the light thrown in at the meatus being reflected from this portion of the membrana tympani, and the contour of the surface giving it this peculiar form.\* These three points, the short and long processes of the malleus and the light reflex, are the landmarks to be sought for in exploring the membrana tympani; in addition, are to be noted the elevations of its surface, extending in front of and behind the short process, the anterior and posterior folds and the dim line of light in the posterior superior portion indicating the position of the descending process of the incus, and caused by the light which is reflected from it through the membrane.

Having once determined the relative position and appearance of these portions of the membrana tympani in its normal condition, a standard has been acquired by which to measure the importance of any variations and the inference which may be drawn from them as to their possible cause; as, for instance, an undue prominence of the short process, fore-shortening of the long process, and prominence of the posterior fold would indicate that an excess of pressure from without had forced the more mobile portion of the membrana tympani inward. Should there be no evidence of change liable to produce this effect in the outer ear, the cause must be sought for deeper in. In the normal ear there is a nearly equal degree of atmospheric pressure on both sides of the membrana tympani; should the communication of the middle ear with the pharynx be cut off from whatever cause, a portion

\* Lucas has shown this effect is produced by throwing light on the inner surface of a metal tunnel.

of the air in the former cavity would in time be absorbed, the result being a partial vacuum and diminution of the atmospheric pressure from within; the preponderance of pressure from without would, therefore, drive the membrana tympani inward, with exception of certain immobile portions. We may go still further and determine, in a measure, the duration of this pressure. It would naturally be expected that, when a certain force is expended upon the whole surface of the membrane, the weaker portion would give way first, from lack of circular fibres; this vulnerable point is about the centre, directly in the track of the triangular light spot. A depression of the membrane would prevent the reflection of the light and the continuity of the reflex would be broken; this would be the first evidence of change in the contour of the membrana tympani; later on, the whole of the surface becomes depressed and the reflex is lost altogether, or represented only by two small spots, one at the end of the manubrium, and the other at the periphery. The variations in form which this light reflex may present are like the changes of the amœbæ, "perplexingly wonderful, and wonderfully perplexing," unless we keep in mind that it is the convexity of the surface and the angle of inclination which it bears to the axis of vision which gives its peculiar triangular shape to the light reflex, and that a break in the triangle implies a variation from the normal position of the membrane corresponding to the hiatus. Aside from indicating changes in the contour of the membrana tympani, the light reflex serves another diagnostic purpose; since it is a reflection from the outer surface of the membrane, its presence implies the regularity and smoothness of the outer coat; should this latter become thickened by disease, the reflex will disappear, or may be presented only by the glimmering phantom of its former self, its outlines preserved but merely indicated, not strongly marked. The two processes of the malleus and the light reflex, therefore, indicate changes in contour, due to extrinsic causes.

We have now to consider the changes in color due to extrinsic causes. The general color of the membrana tympani is, as we have seen, of a yellowish gray; this has warmth imparted to it by the reflection of the flesh tints from the auditory canal, lightness by the reflection of light from the walls of the tympanum, this being especially the case in the posterior portion opposite the promontorium, and depth by the bluish tinge of the shadows where the yellow light, passing through the membrane, is lost in the deeper portions of the tympanic cavity. As instances of changes in color due to pathological processes in the middle ear, congestion of the mucous membrane of the middle ear, as it occurs in the first stage of otitis media, gives a reddish tinge; serous and purulent accumulations in the tympanum, a transparent and an opaque yellow tinge; mucus, a grayish tone; and blood, a deep red color to the membrana tympani. Unless the contour of the membrane is very seriously changed, the presence of the light spot, however, shows that the membrana tympani is itself intact, and that these changes in coloring are due to extrinsic causes alone. Pathological processes in the membrana tympani which may effect any one or all of its layers result, as would be expected, in changes both of form and color. These may be confined to a small portion of the surface, as for instance in calcareous deposits, or may include the whole membrane, as is the case in myringitis; in the former case, the change is principally one

of color, in the latter, of both color and form. Where the changes are very great, as may be seen in an inflammation which affects, more or less, all the layers of the membrana tympani, the landmarks may become entirely obliterated, the light reflex disappears, the malleus is no longer visible, and what we suppose to be the membrana tympani is an irregular plane or convex surface of any shade of color between a vivid red and a dirty yellow. In this, as in many other cases where ocular examination alone is not sufficient to determine the exact condition, use may be made of the probe to bring the sense of touch to the assistance of the surgeon. This tactile examination has been elaborated by Prof Miot, of Paris, who uses probes of various forms. A fine silver probe, tipped with cotton, is sufficient for the purpose; it should be introduced carefully, under good illumination, and properly employed does no harm, and is a valuable aid in diagnosis.

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**MEDICAL EXPERTS.**—With certain medical gentlemen there seems to be a strong desire to be considered medical experts. Especially is this disposition shown in cases of questionable insanity before our courts. We have always considered that to be an expert required a thorough and practical acquaintance with the subject, but the apparent necessity of the times seems to have rendered this unnecessary. The pleas of moral insanity, emotional insanity, and the like, are now considered to be such forlorn hopes that the lawyers seem to be willing to take the opinion of any one who may volunteer it. The consequence is, we are getting a new instalment of experts not known or recognized by the profession, but nevertheless of value as figure-heads. At a recent trial in New York, we saw a number of respectable medical practitioners lending their names to the court and stultifying themselves by the expression of opinions for which they had no possible foundation. The study of insanity has been recognized as a specialty for the last quarter of a century; and it is fair to suppose that there are thousands of questions that can be put by an attorney which are unanswerable, save on the basis of a very extensive practical experience in the treatment of the disease. A physician who has not such an experience, places himself in a false position by claiming to be qualified to give an opinion. There would be no disgrace for any practitioner to acknowledge incompetency in this respect, if called upon. We hope that, in future, any such who may be urged for an opinion may have the moral courage to acknowledge ignorance before it is made so evident in a crowded court-room, and through the columns of the daily papers. It is also obviously unfair to the real experts on insanity—the gentlemen who have the best opportunities for studying the disease—to have the crude opinions, formed by a hasty glance at some authority, foisted upon the public as representing the advanced views of the present day. It is just such cases as these that give the legal profession the whip-hand of the medical profession, and give rise to the complaint, on our part, that the former never lose an opportunity to make fools of us. We believe that every one has his place; and if some of the medical tortoisises trust to the legal eagles to teach them to fly, they must learn, sooner or later, that the higher they are taken into the air the more dangerous will be their fall when left to their own resources.—*New York Medical Record.*

## Progress in Medicine.

### REPORT ON ANATOMY.

By THOMAS DWIGHT, JR., M.D.

[Concluded from p. 239.]

#### VASCULAR SYSTEM.

THE distribution of the finer arteries to the brain is discussed by Heubner, in the *Allgemeine Med. Central Zeitung*, Dec. 21, 1872, and by Duret, in the *Archives de Physiologie*, March, 1873; the latter, however, considering at present only those of the medulla and pons. He finds that the very small arteries may be divided into three classes. Those of the first class are lateral, and supply the roots of the cranial nerves; those of the second are median in origin, and run to the ganglionic masses near the floor of the fourth ventricle; and the third class, coming from various sources, supply the medulla itself. Heubner studied the manner in which the smaller arteries divided, and found that those supplying the ganglia of the base of the brain did not ramify in the same way as those supplying the convolutions and the subjacent white matter. At the base, according to him, each small artery has a definite region to nourish, and does so independently of its neighbors; but, on the convexity of the brain, the arteries anastomose so as to form a rich net-work before sending the terminal branches to the interior.

*The Circulation in the Small Intestine.*—Dr. Arnold Heller (*Proceedings of the Royal Society of Leipzig*, 1872, Heft 1 and 2) has given his attention incidentally to this subject. He has examined the intestine of dogs, cats, pigs, hedgehogs, rabbits and men, and finds that while the plan is not quite the same in these animals, it, in one point, agrees in none of them with received views. The point in question is the circulation in the villi. In almost all anatomies and physiologies, there is a more or less diagrammatic figure of a villus, with an artery and vein running to the point, with anastomosing branches covering the surface. This, our author says, he has never seen. According to him, the artery runs to the end of the villus before giving off branches, except in man, in whom they begin about the middle of the villus. In man and the rabbit, the vein begins at the apex and runs into the network in the submucous tissue without receiving any tributaries in its course. In most of the others it begins near the base, taking the blood from the capillary net covering the villus.

#### NERVOUS SYSTEM.

*The Distribution of the Glosso-pharyngeal Nerve in the Pharynx and Tongue.* By Jacob, of Munich.—Not having seen this text book, we give the most important conclusions from *Virchow and Hirsch's Jahrbuch* for 1873. Just as in the intestines there are two plexuses of nerves (Auerbach's and Meissner's), situated between the two layers of muscular fibres and beneath the mucous membrane respectively, so there are two similarly situated networks in the pharynx, formed by anastomosing branches of the glosso-pharyngeus, the vagus and the sympathetic. The stylo-pharyngeal branch of the facial frequently

joins the glosso-pharyngeus on its way to the tongue. The distribution of the glosso-pharyngeus in the tongue is regulated by the papillæ circumvallatæ, which it supplies with one set of branches, another going to the organs of taste. The nerves of the two sides usually unite near the foramen cœcum. Ganglia are always found in connection with this nerve, both in man and animals, but their number varies considerably in different individuals.

Prof. Axel Key and Dr. Gustav Retzius, of Stockholm, who are preparing an elaborate work on the anatomy of the nervous system, give a preliminary account of their views on the membranes of the cord, the lymph spaces and some points of structure, in *Schulze's Archiv*, vol. 9, heft 2. The most interesting part is that which treats of the lymph spaces, showing their relations to the membranes and to the cavities formed by the latter, and the way in which they pervade the entire nervous system. The vexed question, whether the arachnoid is to be considered a closed sac, analogous to the pleura, with a parietal layer adherent to the dura mater, is dismissed as of little importance; for but one layer has any significance, namely, that one which, being free between the dura and pia mater, divides the cavity into a subdural and a subarachnoid space. In the neck, the arachnoid is very close to the dura, being joined to it by many bands of connective tissue, which are less frequent lower down. The subdural space is larger below than above, and the reverse is true of the subarachnoid. The ligamentum denticulatum divides the latter into two portions, which, however, are in pretty free communication. The anterior space has bands similar to those of the subdural space, running from the arachnoid to the pia, but in the posterior space they are far more numerous and more membranous, forming a great many partial subdivisions of the space. In the median line, these bands are so marked that they are called the septum posticum. The pia mater consists of two layers; the superficial is a loose tissue, forming a number of chambers, more or less perfect, opening into the subarachnoid space. The deep layer, pia intima, adheres very closely to the cord; so much so as to follow every vessel into the interior, forming a canal around it. These canals are the so-called peri-vascular spaces, and, of course, are continuous with the subarachnoid space, from which they can be injected far into the cord. The spinal nerves are at first surrounded by two canals, the inner, from the subarachnoid space, being separated, by a prolongation of the arachnoid from the outer, which comes from the subdural space. The two spaces unite in or about the ganglion of the posterior root, and extend throughout the nerves, existing even around the sheaths of the primitive nerve fibres. The authors have frequently seen, in medullated nerve fibres, the constrictions described by Ranvier (vide first Report), which are caused by the sheath bending in so as to touch the axis-cylinder. They also confirm his views as to the regular appearance of the nuclei of the sheath, one between every two constrictions, which are nearer together in small than in large nerves.

*The Termination of Nerves in Glands and in Striated Muscular Fibre* is discussed, in the same journal, by Kupffer (vol. 9, heft 2) and by Arndt (vol. 9, heft 3) respectively. The former studied the salivary glands of the cockroach. As a nerve comes to an acinus, its structureless sheath becomes continuous with the structureless mem-

brana propria, and the nerve runs into the substance of the cell. It does not go to the nucleus, as some observers maintain, but toward a kind of capsule, which really is the blind end, or rather beginning, of an ultimate duct. The author has never seen a nerve reach this capsule, and is the more inclined to doubt that it does so from having seen it divide after entering the cell.

Till the structure of a striped muscular fibre is more thoroughly understood, it is vain to expect to settle the manner in which nerves end in it. Arndt gives a good review of the various opinions, and a valuable contribution to our knowledge of certain points. He holds that the elevation, marking the point of junction of a muscular and a nervous fibre, is of the same character in the higher animals and the invertebrates. He finds that the neurilemma of the nerve is continuous with the sarcolemma, so that the elevation is situated under the latter, as is maintained by Kühne. After the nerve is inside of the sheath, no very definite or reliable data as to its termination are as yet to be expected. Arndt finds, also, a network of nerves between the fibres, which he thinks is formed by sensory nerves, the motor ones going into the fibres.

#### UTERUS.

The shape of the uterus has been studied by Hagemann, by means of injections from the vagina. (*Archiv. für Gynäkologie*, vol. 5, heft 2.) His specimens include casts of the uterus of the infant, and of women of various ages who have and who have not had children. The cast of the uterus of the infant shows evidence of a posterior median depression in the uterus, and also of ridges on both the anterior and posterior walls, but particularly the former, running toward the orifices of the tubes. The antero-posterior diameter of the cavity is even smaller in the young virgin than in the infant; it is increased after childbearing, and, independently of this, by advancing years. The cavity enlarges gradually from the os internum with straight sides, except in the case of those who have been mothers, with whom it enlarges suddenly, the sides being convex outward. After pregnancy, the cervix is shorter, and the orifices, particularly the external one, are larger. Hagemann's method is good, but his paper leaves the impression that the number of experiments is too limited to justify much generalization.

#### PLACENTA.

The authors quoted in this connection in the second report, are all believers in Hunter's sinus system, of which Mr. Braxton Hicks is the most active opponent. The Hunterian theory is clearly defined by Dr. J. Matthews Duncan, in the *Edinburgh Medical Journal* for January. "It is that the mother's blood passes, in the curling arteries, through the decidua serotina, to be diffused through the substance of the placenta, and then returns to the uterine sinuses of the mother through utero-placental sinuses; that, as it is diffused through the substance of the placenta, it flows in cells, spaces or caverns, which extend from the caducous portion of the decidua serotina to the placental chorion over the whole extent of the organ; that these cells, spaces or caverns are partially filled or nearly choked up with tufts of foetal villi." Dr. Duncan then goes on to show that, in spite of partial separations, this cavernous space is one and continuous throughout by gently pushing a small air-bubble through it. Mr. Hicks denies this

theory entirely, in a paper published in *Obstetrical Transactions*, vol. 14. He considers the results obtained by injections to be quite untrustworthy, and due to rupture of the delicate walls of the vessels or to more extended laceration. He denies that colored water injected into the placenta will return by the vessels on its uterine surface, as a wax injection does, according to Hunter. He ignores Dalton's experiments with air, which, indeed, are very damaging to his theory. He argues that there is no evidence of any transition stage between the sinus system and a preceding arrangement, so that the former either existed from the beginning or does not exist at all, and maintains, from dissections made at various stages of pregnancy, that the latter is the case. Perhaps the strongest point made by Mr. Hicks is the occasional absence of blood in the intervillar spaces. As he observes, it is far more difficult to account for its absence if it be normally there than for its presence if it be not, for, in the latter case, a small laceration of a vessel is all that is necessary. He has four times examined the placenta *in situ*, from the fourth to the sixth month of pregnancy, and twice found no blood between the villi. The following is a short sketch of the most important of his views of the structure of the organ. There is a membrane, the chorion, on the inner side, and the mucous membrane of the uterus, decidua serotina, on the outer, and prolongations, villi, from the chorion are pretty firmly attached between and around the lobules of the decidua. The space between the latter is very small, and contains some serous fluid, which he suggests may be thrown out from uterine follicles, which open through the decidua into this space. Each decidual lobule is supplied by a "curling artery," which breaks up in the centre into branches running toward the periphery, where proportionately large veins with most delicate walls return the blood to the uterus. It is by the rupture of these veins that Mr. Hicks accounts for the results of injections which have led to the general acceptance of the sinus theory.

## TOPOGRAPHY.

Topographisch-chirurgische Anatomie des Menschen von Dr. Rüdinger (Brust und Bauch). Munich. 1873.

This volume comprises the first two parts of a large work on topographical anatomy. It treats of the thorax and abdomen. Besides having several wood cuts in the text, it is illustrated by many colored plates, taken from photographs of frozen sections and similar preparations. These plates are above praise; they are additional proofs of Rüdinger's great talent for demonstration. The horizontal sections through the thorax and abdomen are particularly instructive, and the vertical one through the foetus, showing the relation of umbilical vein, the ductus venosus and vena cava are clearer than diagrams could be. Unfortunately, the illustrations are the best part of the work; the text is too meagre for a work of such pretension, and a reference to the plates is too often substituted for a definite description. The author divides the space in the middle of the thorax into a cardiac and supra-cardiac region and the posterior mediastinum. The first of these is defined by the pericardium, but no definite limits are assigned to the others. This, we think, is an omission, for even if such limits do not exist, purely conventional ones are valuable, as they enable us to place structures more accurately. In spite of imperfections, there is much to praise in the work, the description of the peritoneum is remarkably clear.

VOL. LXXXIX. No. 11a

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### Bibliographical Notices.

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*A Guide to Urinary Analysis, for the Use of Physicians and Students.*

By HENRY G. PIFFARD, A.M., M.D. New York: William Wood & Co. 1873. Pp. 86.

THIS little volume of Dr. Piffard's is a complete guide to the quantitative estimation of the most common constituents of the urine, and contains valuable rules for the preparation of all of the standard solutions necessary for the volumetric analysis of these substances, the third chapter being devoted entirely to the preparation of reagents for both the quantitative and qualitative analysis of the urine. The use, however, of the Troy system of weights throughout the book, instead of the metric system, which is universally used in all works relating to quantitative analysis, detracts somewhat, in our estimation, from its value.

For the determination of the color, Vogel's color table is recommended, although that table is not included in the work. Those physiological or pathological conditions which give rise to an increase or a diminution of the depth of color in the urine are not alluded to at all, nor, in fact, is the importance of variations in the amount of any of the normal constituents spoken of, an omission which diminishes very much the value of the book, designed, as it is, as a *guide* for the use of the medical student.

In regard to the estimation of urea, both Davey's and Liebig's methods are given, together with Dr. Flint's table for the calculation of the amount of urea from the volume of nitrogen evolved in the former method. The necessary rules and precautions to be taken in the performance of these analyses are accurately described, but the scientific explanation of the processes by a statement of the chemical changes which take place is utterly ignored. Heller's approximative method for the determination of urea is not mentioned, although approximative as well as accurate methods for the estimation of phosphoric and sulphuric acids and of chloride of sodium are given. The speedy method for determining a diminution of the chlorides by means of one drop of a standard solution of nitrate of silver, according to Heller, is also not mentioned.

In testing urine for albumen, the only test recommended is the heat test with the *subsequent* addition of nitric acid under the name of the "*heat and nitric acid*" test. But no allusion is made to the action of an excess of nitric acid alone upon albumen, which, when used in the proper manner, forms by far the most delicate qualitative test for albumen, and even the amount present in the specimen may be approximately determined by the thickness and opacity of the zone formed. Again, specimens of urine are sometimes met with, in which it is impossible to obtain a satisfactory result by means of the heat test; such specimens, for example, are turbid urines, which can not be rendered clear by filtration. Of the preparatory treatment necessary in such cases and the most advantageous test to be employed, no mention is made.

The appendix contains three tables. The first is a small table giving the average amounts of urea, uric acid, phosphoric acid, sulphuric

acid and chloride of sodium in a fluid ounce of urine. The second is a table for the conversion of the degrees of the Fahrenheit and Centigrade thermometric scales into each other. The third is for the conversion of the millimetre scale to that of the English inch.

It is much to be regretted, that Dr. Piffard, who is eminently well qualified for the work, did not extend his volume so as to include an examination of urinary sediment (of which nothing whatever is said) together with the physiological and pathological significance of variations in the amount of normal constituents, instead of confining it, as he virtually does, to quantitative analysis. He could thus have given to the profession a complete guide to urinary examination, which is so sadly needed by the medical student, who is now obliged to resort to foreign works.

E. S. W.

*The Diseases of the Stomach. Being the third edition of the "Diagnosis and Treatment of the varieties of Dyspepsia."* Revised and enlarged. By WILSON Fox, M.D., F.R.C.P., F.R.S. etc. etc. London and New York: Macmillan & Co. 1872. Pp. 236.

ANY carefully written work regarding indigestion will always meet with favor, so constantly is the stomach brought to the notice of the physician by direct and indirect complaints.

Those individuals who pass through life unaware of the presence of this important organ are comparatively few, though many of them are pleased to be called "bilious" rather than dyspeptic.

The present edition of Dr. Fox's work is in part enlarged by the addition of chapters concerning gastric ulcer and cancer, originally written for and published in Reynolds's System of Medicine, and revised by the insertion of numerous references and observations relating to recent investigations.

The first part of the book describes the symptomatology purely, objective and subjective, the second and greater portion being devoted to special diseases, among which the neuroses occupy a prominent position. The evidence of system is pronounced, in consequence the book will yield rapid results to the physician who seeks an explanation of unfamiliar phenomena.

Where Dr. Fox speaks with positiveness regarding the effect of remedies, the reader may be assured that a critical comparison has been made between antecedent and consequent.

The first edition presented the results of a large amount of original work done in part, if we are not mistaken, in Virchow's laboratory several years ago. And referring more particularly to the pathological anatomy of the walls of the stomach, the reader will notice that the present edition does not lack in the treatment of this subject.

The book has evidently been written for the benefit of medical men, and is not likely to become the table-ornament of the fashionable parlor or the frequented club.

Though the subject, not the name, is popular, its treatment is thorough and detailed, a fact well worth observing at a period when pseudo-medical treatises seem to be written as advertising media for the author's benefit.

*The Therapeutic Effects and Uses of Mercury as influenced by "The Report of the Edinburgh Committee on the Action of Mercury, Podophyllin and Taraxacum on the Biliary Secretion."* By WM. H.

DOUGHTY, M.D., Professor of Materia Medica and Therapeutics in the Medical College of Georgia, Augusta. Atlanta, Georgia.

THE author of this pamphlet offers to the well known report of the Edinburg Committee, the well known objections which may be summed up by saying that experiments on healthy dogs are for practical purposes and, perhaps scientific also, less useful than clinical observation on sick men. He thinks that investigations upon the action of the liver are best made by a study of the fæces. Unfortunately, however, he does not give any more accurate method of conducting this somewhat repulsive inquiry than observation of the color, which, although it largely depends upon bilious coloring matter, is too complex a result to give accurate information upon its various factors. We hope the author will give in more detail his positive data and views upon the matter. We apprehend that, although much might undoubtedly be learned from examination of the fæces, yet, until this chemical analysis becomes less offensive and less difficult, the greater mass of clinical observation will lead to but somewhat vague scientific results on the subject.

#### BOOKS AND PAMPHLETS RECEIVED.

Thinkers and Thinking. By J. E. Ganetsen, M.D. (John Darby.) Philadelphia: J. B. Lippincott & Co. 1873. Pp. 254. (From James Campbell.)

Lectures on Madness in its Medical, Legal and Social Aspects. By Edgar Sheppard, M.D. Philadelphia: Lindsay & Blakiston. 1873. Pp. 186. (From James Campbell.)

A Manual of Practical Hygiene. By Edmund A. Parkes, M.D., F. R.S. Fourth Edition. Philadelphia: Lindsay & Blakiston. 1873. Pp. 667. (From James Campbell.)

Law and Intelligence in Nature, and the Improvement of the Race in accordance with Law. By A. B. Palmer, A.M., M.D. Lansing: W. S. George & Co. 1873. Pp. 31.

A NEW SUBSTITUTE FOR QUININE.—The *British Medical Journal*, June 7, 1873, states that among the species of drugs exhibited in the International Exhibition at Vienna is the *Echissus Scholaris*, a plant of the natural order of *Apocynææ*. It is especially abundant at Luzon, in the Philippine Islands; and its bark has long been used by the natives, under the name of *dita*, as a remedy in all kinds of fever. An apothecary in Manila has given the name of *ditain* to an uncrystallizable very hygroscopic substance which he has discovered in it. The principal Spanish physician in Manila, Dr. Miguel Zina, has given it to numerous hospital patients, and has found that ditain is not only a perfect substitute for quinine, but that its use is not followed by the disagreeable results which often attend the administration of the latter drug. It is given in the same doses and in the same way as quinine. In many cases, also, its activity as a tonic was well marked. The ditain is prepared from the bark in the same way as quinine from cinchona; 100 grammes of bark giving two grammes of ditain. A single tree yields a large quantity of bark without injuring its growth. It is calculated that the price of ditain in Europe would be about 3s. 6d. to 4s. per ounce.

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**Boston Medical and Surgical Journal.**

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BOSTON: THURSDAY, SEPTEMBER 11, 1873.

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THE success of the forty-first annual meeting of the British Medical Association was even greater than had been expected. In addition to the number of distinguished foreigners who honored the meeting by their presence, the attendance of the members of the Association was so unusually large that the preparations for their reception proved to be quite inadequate. The large number of valuable papers read, and the character of the men who participated in the proceedings, speak well for the prosperity of the Association, which now seems to be at its height. The reports of the daily general meetings are replete with interest, and the smoothness with which they were conducted is in strong contrast to the tempestuous character of the meetings of our own unfortunate Association.

The exhibition of patients and the annual museum we have already alluded to; we find, also, an account of a series of interesting physiological experiments. The exceedingly diversified character of the proceedings is quite noticeable. Everything was done to make the sojourn of the visitors in the city as agreeable as possible, and hospitality on the part of the London members does not seem to have been wanting. Soirées and excursions were numerous. The annual dinner, which followed the close of the meeting, owing to the limited accommodation, was attended by a very small proportion of the members, and although honored by the presence of Mr. Gladstone and many other distinguished men, was not at all on the scale that it should have been on such an occasion. It was voted that the next meeting should be held at Norwich, and that Dr. Copeland, of that city, should be the president elect. The tone of the English press was highly appreciative of the Association and its work, "and discussed with mingled admiration and respect the great spectacle of an united profession associating through all its ranks on an equal footing, combining for public purposes in an organization which is purely representative, and pursuing a course self-reliant and influential for good."

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THE public has heard a great deal this summer about the unfortunate Miller's river, and, as is well known, the chief responsibility for this nuisance has been laid at the door of the slaughtering establishments in that neighborhood. We called attention lately to the fact that this matter, about which there has been so much dispute, was reported

upon at length nearly a year ago by a commission most eminently qualified to express an opinion upon such a subject. The communication from Squire & Co., in to-day's issue, attempts to show that that portion of the commissioner's report relating to slaughtering establishments referred to practices of former years. The wording of the report on this point is very plain, and cannot, we think, be twisted into any such meaning. Mr. Squire, it will be seen, asserts, moreover, that the causes in question do not exist now, and that the principal recommendations of the commission are being carried out. How far the smell from the wash of half a million of hogs slaughtered annually may be neutralized by the remedies which are now being applied remains to be seen.

The question of sewerage is, indeed, one of great importance to the city, intimately connected with its future growth and prosperity, and one full of difficulties, which are constantly increasing with every new filling, whether of Back Bay, Ruggles Street, or other districts. Moreover, it is closely associated with the drainage of surrounding municipalities. How far the condition of the extensive flats surrounding us, at low tide, in all directions, and the condition of the soil itself on which Boston stands, is affected by the present system of sewerage, is but one of the many questions relating to this important matter. We are far from feeling reassured by the report of the Committee on Sewers, and we think the sooner the whole matter is thoroughly investigated by competent engineers the better. It seems to be by far the most important sanitary question with which we in Boston have to deal.

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A CASE OF FEMORAL ANEURISM CLOSELY SIMULATING MALIGNANT DISEASE.—Dr. George Alexander Gloag, L.K.Q.C.P., of Bristol, England, reports the following case in the *British Medical Journal* for May 24, 1873:—

Edward P., aged 37, of a cachectic appearance, by occupation a pedlar, came under my care on November 5th, 1872, for the treatment of a tumor which occupied the anterior and inner region of the upper half of the right thigh. It was bounded above by Poupart's ligament, and had a circumference of  $27\frac{1}{2}$  inches at its centre, the circumference of the sound limb at the same part being 16 inches. The tumor had a tense elastic feel and a shiny appearance, the superficial veins were enlarged and prominent, and the disease appeared to have involved all the structures of the limb. No *bruit* or pulsation could at any time be discovered in it. It gradually increased in size, and on December 20th had attained a circumference of 30 inches. The patient suffered intense pain, which was of a paroxysmal character, and required large doses of morphia or chloral for its relief. During severe pain I found that the tumor became harder, and that it increased in circumference to the extent of half an inch, and again sub-

sided, as the pain diminished, to its former dimension. The limb was œdematous below the tumor, the result of venous obstruction. Although there were no glandular enlargements nor symptoms of secondary deposit, the cachectic appearance of the patient, the intense pain he suffered, and the rapid growth of the tumor, together with the total absence of pulsation or stethoscopic sound, induced me to believe the case to be one of medullary cancer, for which operative interference was unjustifiable. About six months previously to the time when the patient came under my notice, a tumor, about the size of a small egg, appeared on the upper and inner side of the thigh, accompanied with such severe pain that the patient was unable to follow his occupation, and was obliged to remain in bed. It grew rapidly from week to week, and the pain increased in proportion. A month or so after the appearance of the tumor, he obtained admission into the Bristol General Hospital. He remained there six weeks, during which time the tumor increased considerably in size, and was then discharged as an incurable case, the tumor being considered of a malignant nature. The patient remained at home about a month, at the termination of which time he was admitted a patient of the Bristol Royal Infirmary. His case being considered one for which nothing could be done, he was removed to his own home in about a fortnight. The patient had usually enjoyed good health, and his family history was good; but he had suffered from constitutional syphilis, and was discharged from the army in consequence of defective vision, the result of specific iritis. There were no evidences of heart disease.

The patient died on December 28th, and on the following day, Dr. Norton, Mr. Dobson and myself made an examination of the body. The knee was bent, the thigh everted, and free movement existed at the hip-joint. An incision was made from the anterior superior spine of the ilium to the symphysis pubis, and another from the centre of Poupart's ligament down the front of the thigh. The latter was afterwards prolonged across the inner aspect of the knee, so as to expose the upper part of the popliteal space. On making the longitudinal incision, the parts gaped widely, and a thin layer of muscular tissue was exposed. On dividing this the length of the thigh, a mass of clot presenting various shades of color appeared. Some of it was partly laminated and of a firm consistence, and needed the assistance of the knife for its removal. Nearly fourteen pounds weight of clot was turned out of the cavity, which was bounded anteriorly and to its sides by the skin, a small amount of subcutaneous fat, and a thin layer of muscular tissue; above by Poupart's ligament; below by the quadriceps extensor tendon; and behind by the eroded femur, the adductors and vastus externus muscles, in a partially disorganized state. The integument showed no symptoms of thinning in any part. The anterior crural nerve was found deeply imbedded in the clot, and was the only recognizable structure in the tumor. An incision was made from the middle of Poupart's ligament to the umbilicus, and thence to the sternum. The kidneys were in a healthy condition; the liver was enlarged, and showed appearances of waxy degeneration. On cutting across the aorta, and dissecting the external iliac artery downwards, it was found that an aneurism existed on the right superficial femoral artery. The femoral artery was then dissected upwards from

the popliteal, as well as possible, to the tumor, and the mass removed for preservation. It consisted of a quantity of laminated fibrine, situated in Scarpa's triangle, where it appears to have burst, and this, I believe, took place before the patient applied for medical relief, at which time the tumor was localized, and about the size of two fists. The epigastric and circumflex ilii arteries were considerably enlarged. The upper part of the femoral artery leading into the tumor was pervious; that immediately below it and leading from it was impervious.

This case of diffused aneurism is, I think, worthy of record, on account of the close resemblance of its symptoms to those of malignant disease. If the nature of the tumor had been discovered during its early stage, an effort to cure it might perhaps have been made. This case clearly shows that cachexia, rapid growth and severe pain must not be accepted as sufficient evidence of cancer. In reviewing the history of this case, there are some points which should have suggested its non-malignant character; namely, the absence of lymphatic enlargements, or symptoms of secondary deposit, and of any tendency to ulceration of the skin over the tumor, the favorable family history and the fact that the tumor was definitely bounded superiorly by Poupart's ligament.

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TRANSMISSION OF CHOLERA BY THE MEDIUM OF SPRING WATER.—Dr. R. Förster of Breslau, in an interesting article on the communication of cholera, supports the theory that this disease is enabled to assume an epidemic form almost exclusively by means of the poisoning of the sources of wells. As a very conclusive evidence in proof of these views, Dr. Förster shows that there are about a dozen cities and districts situated in Silesia and Pomerania which have thus far escaped all epidemics of the disease. These localities are shown to have this alone in common, viz., that their supply of drinking water is brought from a considerable distance, wells being used to a very limited extent. One of the most striking illustrations of the correctness of this theory is afforded by the fortified town of Glogau, which is built upon both sides of the river Oder. The smaller portion of this town, lying upon the right bank of the river, was visited in 1866 by a severe epidemic of cholera, which carried off  $1\frac{1}{2}$  per cent. of the entire population, but which, however, did not extend to the section of the city occupying the left bank of the river. This latter section was ten times as large as the former, and was, moreover, in the immediate vicinity of the barracks in which were confined those of the Austrian prisoners who were attacked with the disease.

In the latter district, the drinking-water was brought from a distance; in the former, the water was obtained from local wells. In other towns which have shared a like immunity from this disease, it has been ascertained, that, although they possessed no water system, their wells were sunk to a great distance in rocks, and were in this manner effectually sealed from all contamination from adjacent privies. The author concludes that the secret of the immunity of the above localities from all cholera epidemics lies in their common system of introducing water from a distance, whereas the prevalence of epidemics in other places is to be ascribed to the transmission of the *materies morbi* from house to house by means of the contaminated

water sources. The chief source of this contamination in large towns and cities must be the drinking-wells, which are commonly situated within a few yards of the privy, while numerous instances might be cited in which foreign matter has found its way into wells from a distance of several hundred yards.

The fact of the very common contamination of wells situated in large cities has been recently demonstrated by repeated analysis, in which there has been generally detected more or less ammonia, nitric acid and various organic matters.—*Allg. Med. Cent. Zeitung*, June 14, 1873.

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THE EVILS OF HIGH-HEELED SHOES.—Dr. v. Rothmund, Sr. (Munich), writes us as follows :—

Who would gather violets must not be frightened by the pricking of the thorns, and if one has the courage to cast a lance he must not be frightened off by the women. I do not propose in this paper to distress the reader with a dissertation on the follies of female fashion, but I shall venture to call attention to a few points in connection therewith, and I commence now at the bottom. I have nothing to say then about corsets, upon which folios have already been written, but I have a few facts to bring forward about the clothing of the feet. The high heels lately introduced into fashion change the long axis of the body so that the trunk is directed backwards, and this of course alters the inclination of the pelvis. Such an alteration cannot be without influence upon conception and labor. I leave it to the obstetricians and gynæcologists to collect observations upon these facts. In my own experience I can bring forward one evil resulting from this *bizarre* position of the foot, viz., displacement forwards, even dislocation of the ankle joint. I had a case under treatment where a dislocation occurred as a result of the predisposition thereto by high-heeled shoes, and where the patient was confined to bed for three months, notwithstanding the best treatment that could be devised. Inflammation of the ligaments and the sheaths of the ligaments is much more frequently met with. Finally, an abundance of corns is a product of this shoe dress that is not to be overlooked. Indeed the corn-doctors are the only ones benefited by this refinement of luxury.—*Wien Med. Presse*, June 15, 1873.

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COLD INFUSION OF GREEN COFFEE IN GOUT.—Dr. Monchaux communicates to *L'Abeille Médicale* his experience in the use of cold infusion of green coffee in the treatment of gout. He directs his patients to take a table spoonful of green coffee, place it in a tumbler, half fill the latter with water at the temperature of the atmosphere, and allow it to stand for twenty-four hours. In the morning the liquid is to be swallowed, an equal quantity of water added, and taken the following morning; thus the same quantity of coffee will serve for two doses. The liquid thus obtained has little savor; it is more or less distinctly green according to the species of coffee employed. Dr. Monchaux does not explain the mode of action of the remedy upon the uric diathesis. He inclines to the belief that it acts against the effects of the disease rather than on the disease itself, and that, in order

to prevent a recurrence of gout, it is only necessary to make a daily use of the remedy indicated by him. He observes that the remedy is an old one, and that, however difficult it may be to explain the precise action, the efficiency of the remedy is acknowledged. He had himself used it during three years, and with the result that his bi-annual attacks of gout had completely disappeared.—*The Doctor.*

NEW METHOD OF PERFORMING THE OPERATION OF LITHOTOMY.—In the June number of the *Edinburgh Medical Journal*, Dr. Davidson, Physician to the Queen of Madagascar, gives an interesting retrospect of the recent history of lithotomy, and describes a new mode of operation which he has adopted. The staff employed is a modification of Buchanan's rectangular one, the acute angle being replaced by a gentle curve, and grooved in its inner aspect. The form of the external wound is semi-lunar, curved somewhat lower and deeper upon the left side than on the right, in order to afford a freer drain in the side on which the prostatic wound is situated.

"Having exposed the membranous part of the urethra, this is opened, and a guide is introduced along the groove in the staff into the bladder. This guide, consisting of two parallel and connected bars or blades, capable of being separated by means of a screw, forms, when approximated, an instrument about five inches long, somewhat like a female catheter in size, straight, slightly flattened from above downwards, and grooved on the left side so as to permit the bottom point of the knife to slide along without escaping from it. When this guide has been fairly introduced into the bladder, the staff is withdrawn, and the blades are separated by the screw *to such an extent as to render the tissues tense*. The knife used has a button-shaped extremity to fit the groove in the guide. The blade is narrow throughout, but is slightly triangular, becoming a little broader towards the handle than at the point. This knife is then carried along the groove so as to divide the tense resisting structures, *by its edge being brought into contact with them rather than by actual cutting*. The blades of the guide are now expanded to a sufficient extent. Should it be found, however, that the required degree of separation cannot be effected without force, the knife may be passed along a second time to cut the structures that still resist. In no case should anything be incised, except what is found to oppose gentle dilatation. The size of the calculus determines the extent to which the knife is to be used and dilatation effected.

"The blades of the instrument having now been separated so far as the size of the stone seems to demand, it serves as a conductor for the forceps into the bladder. They slip along between the blades of the instrument. The stone is then extracted in the usual way. Should the calculus be very large, the knife may be applied in precisely the same manner to the right side of the prostate, thus making a bilateral incision."

The chief advantages of this, as compared with other operations, are the following: 1st. The incision is an exact and *discriminating* one, and both the incision and the dilatation are in proportion to the size of the stone and the resistance of the tissues.

2nd. The introduction of the forceps is simplified, the guide for the knife serving at the same time as a conductor for the forceps.

3d. Some of the special accidents of lateral lithotomy are less likely to occur in this operation. Among these accidents may be enumerated troublesome and even fatal hæmorrhage; inflammation of the neck of the bladder and pyæmia, caused by bruising; infiltration of urine and pelvic abscesses, the result of too extensive incisions.

Dr. Davidson concludes his valuable paper with the statistics of results thus far obtained in this operation, the patients operated upon showing a very small rate of mortality.

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"MIXED MEDICAL CLASSES."—Judge Ardmillan's opinion, in the Edinburgh cases.

"I fully and respectfully recognize the high qualities, capacities, and vocation of women. I recognize, especially, the fact, that the elevation of women in domestic and social position, is one of the blessed fruits of Christianity. There are few, indeed, who hold intelligent and virtuous women in higher estimation than I do. It is very much for their own sake, and on account of the respect which I entertain for them, that, on this particular point, I feel it my duty to state my decided opinion, that the promiscuous attendance of men and women in mixed classes of medical study, such as anatomy, surgery, and obstetric science, with concomitant participation in dissection, demonstration, and clinical exposition, is a thing so unbecoming and so shocking—so perilous to the delicacy and purity of the female sex, to the very crown and charm of womanhood, and so reacting on the spirit and sentiment which sustain the courtesy, reverence, and tenderness of manhood—that the law and constitution of the University, bound to promote, and seeking to promote the advancement of morality as well as knowledge, cannot sanction or accept such attendance."

—*London Med. Times and Gaz.*, July 5, 1873, p. 11.

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## Correspondence.

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### HOW TO MAKE LIEBIG'S SOUP FOR BABIES.

THE value of this soup, prepared according to Liebig's directions, is not fully appreciated in this neighborhood, partly, perhaps, because it is not often tried, and partly, no doubt, because it is supposed to be the same thing as the so-called Liebig's Food which is put up in tins by Savory and Moore. It may be that there is some way of preparing Savory and Moore's powder so as to make it palatable and digestible. But, although H. R. H. Prince Albert Victor thrive on it well (vide advertisements), it must be confessed that, prepared according to the directions given, it is not very palatable, and, as far as my experience goes, not particularly digestible. The receipt for Liebig's soup is given in several books in English, but entirely without the details of the process, so that one only finds out how to prepare it well and quickly after a good many experiments. I feel sure, however, that, if the detailed directions which I give below are strictly followed, the soup will be made without difficulty.

(A.) One measure of malt, mixed with one measure of solution of bicarbonate of potash, should be left to stand half an hour.

Malt, ready ground, may be obtained of beer-brewers, though they do not make a business of selling it; it may well be sifted through a coarse sieve, to remove the largest hulls. It is well to buy bicarbonate of potash in half-ounce packages, and dissolve one package at a time in one quart of water. A large wineglass, or small teacup, answers conveniently for a measure.

(B.) Make a porridge of one measure of flour in five measures of milk.

To avoid lumps, mix a part of the milk with the flour first, and make it perfectly smooth before adding the rest of the milk. The flour should be of as coarse a quality as can be obtained.

It is not very easy to boil the porridge enough to swell the starch thoroughly and yet not burn the mixture. The most convenient vessel is a milk- or farina-boiler, though any two vessels of such sizes that one will make a water-bath for the other will answer the purpose. It is easier to swell the starch thoroughly by having but little water in the water-bath and depending on the steam for heating, than by having so much water in the bath that the smaller vessel will dip into it. If there be a fire of hot coals at hand, it is well to make sure that the porridge is thoroughly boiled by taking the vessel which contains it out of the bath and letting it stand on a toasting rack over the hot coals, but not touching them. It is less likely to burn in this way than if put on the iron surface of a range or stove.

(C.) Let both the water-bath and the porridge cool down to about 140° or 150°, add the malt and potash slowly while stirring, and let it stand at the above temperature fifteen or twenty minutes, when it becomes thin and sweet.

When the porridge has been thoroughly boiled, it is best to fill up the water-bath, so that an even temperature can be maintained. It is certainly possible to get along pretty well without a thermometer, remembering 150° is very hot, but not boiling. Many failures, however, will be prevented by using a thermometer, which can be prepared easily from that of the ordinary, cheap thermometers which are used in dwelling houses, by drawing it out, together with the metal scale, from the black frame, and cutting off so much of the scale with strong scissors that the glass part only will dip into the porridge. If the soup does not now become thin and sweet after standing fifteen or twenty minutes, some mistake has been made.

(D.) Boil it up once and strain it through a sieve and then through muslin.

If it were not boiled up this last time it would sour readily, but, when boiled, it keeps twenty-four hours perfectly well.

(E.) Dilute it with an equal quantity of water for a young child, and gradually increase the strength till the child is eight months old, when it may be taken in full strength.

It should be diluted only just before using, and kept in a perfectly cool place.

CH. P. PUTNAM.

#### MILLER'S RIVER.

MESSRS. EDITORS.—We heartily rejoice that our recent petition to the Board of Aldermen has attracted attention from so high an authority as your JOURNAL, and that you have given it the favorable notice apparent in your article on the subject published on the 21st inst. It is highly satisfactory to us when we read that you "sympathize strongly with Mr. Squire's views on the subject of the drainage of Boston and its vicinity." Also, that you perceive that "the danger and expense there (London, Eng.) incurred will sooner or later be inevitably visited upon us." Furthermore, that you deem "this subject of general drainage quite as important a matter to the city as the remedies to be applied to Miller's river." Your allusion to our "motive" in presenting the petition we need scarcely remark upon. No one can know that motive but ourselves, and we know that the only object which we had in view was to direct attention to the true causes of the vapors and odors which afflict the vicinity of Boston. We know that those vapors and odors do not emanate from the slaughter houses, as has been so often alleged, but that Boston, at least, can find the origin of her troubles nearer home. Motives are of little consequence; but facts are all-important.

You notice our statement, that "no board of health, committee on health, grand jury or other official body has ever been able to fix upon the slaughter houses the stigma of having originated or produced the offensive smells or deleterious vapors;" and you point out the fact that the joint commission of last year did attribute to those establishments a large share of the responsibility of making Miller's river what it is. That commission said, in effect, that the sewerage of Cambridge and Somerville contributed some-

what; that the filth brought by the in-coming tide was there precipitated, thus adding to the general result; but that *mainly* from the use made of the basins by the slaughtering establishments was the nuisance produced. There is an apparent contradiction here to what we stated as to official bodies fixing the stigma of producing the nuisances upon the establishments referred to, but we think that it is only *apparent*, and not real. The commission was evidently considering the condition of the river bed, and the causes which had accumulated thereupon a vast body of filth; and, in the opinion of the members of the commission, it was the discharge of blood and other matter from the slaughter houses (we think they must have meant *in past years*), which had gone far to make the territory a mass of corruption. While we may respectfully differ with the commission as to that point, we do not propose to discuss the subject here and now, and we desire merely to say that the causes alluded to by that honorable board have entirely disappeared. The blood, and all other things which would be likely to pollute the stream or the river bed, are now carted away to distant places, every day, and thus can no longer (if they ever did) contribute to the production of nuisances. Admitting, for the sake of the argument, that the commission was right in saying that the river bed had become what it had by reason, *mainly*, of the use made of the basins by the slaughtering establishments, it is still true, as stated by us, that no official body had ever fixed the stigma upon the establishments themselves of originating or producing the offensive odors. They may have done something in past years (not now) to make the river bed filthy, but the establishments themselves do not originate or produce deleterious vapors and discharge them into the atmosphere, and no official body has ever been able to say that they do. In other words, the slaughter houses may have helped, in the past, to befoul Miller's river, but they are not to-day doing either that or anything else which should subject them to public animadversion, or to destruction by the State Board of Health. As you are well aware, the filling of the river is rapidly going forward, the sewers will soon be commenced, and thus the principal recommendations of the joint commission are being carried out. When these methods for the abatement of a great nuisance are fully completed, it will be time to turn attention to the further recommendations of the commission, which is, "to enforce those sanitary principles which the Commonwealth has already adopted with reference to industries of the class peculiar to this neighborhood." If, after the filling has been done and the sewer constructed, there is still a nuisance, and that nuisance can be traced to the slaughter houses, then, we say, with the whole community, abolish the business so far as that vicinity is concerned. We have perfect confidence, however, that no such day will ever arrive.

But the main object of this letter is to urge you to do all in your power to secure proper attention on the part of the authorities of Boston to the great subject of a better system of sewerage than now exists in this city. It is the province of your Journal to deal with all matters relating to the public health, and whatever you say on that most important topic will be considered as coming from the highest authority and entitled to the greatest weight. It is not for us to instruct you in regard to a subject which you have doubtless studied far more closely than we have, and which you doubtless understand in all its details; but we are deeply impressed with the potent fact that there has been great neglect and judicial blindness in quarters where diligence and foresight should have been shown, and it is apparent that much discussion of a very forcible character must ensue before anything effectual will be done to remedy the vast evils which at present exist. One of the greatest dangers is that the evil odors which frequently afflict the residents of Boston will continue to be (as they have been in the past) attributed to causes which are not at all responsible for them. Miller's river may, if you please, be a stupendous cess-pool of filth, poisoning the whole adjacent atmosphere, but it should not be made the scape-goat for the sins of other localities quite as detestable; and so long as it is thus made the scape-goat, will public attention be diverted from causes of dis-

comfort and disease which ought to be forthwith removed. As it is now, the residents of the west end of Boston frequently attribute to Miller's river sickening and disgusting odors which never could have emanated therefrom. They could not have come from there for the simple but sufficient reason that, at the time they were perceived, the wind was from an almost directly opposite quarter and blowing freshly. A brisk south-west breeze will bring from the flats of Charles river and from the filthy waters of that stream (as they are at low tide) perfumes that are not at all agreeable; but nothing from Miller's river could, by any possibility, reach any part of Boston on the wings of such a breeze,—and yet it is a common remark on such occasions that “here we have Miller's river and those confounded slaughter houses!” Of course it is useless to attempt to abate a nuisance until its cause is ascertained and its place of production discovered.

There is a very large section of the city of Boston draining into Charles river. The tide-gates keep the sewers closed for hours at a time, or until the tide falls sufficiently to enable the pressure of sewerage behind to open them. During these hours, an immense mass of filth must accumulate in the sewers, and the manufacture of deleterious gases is going on with great rapidity. These gases will find their way out somewhere, and it is one of the problems of the age to contrive some effectual way of preventing them from backing up into the habitations of men and working destruction to health and life. Where the outlets of the sewers open, the sewerage pours out into the river in a copious stream of nastiness, contaminating the water and destroying the purity of the air which holds the gases in suspension.

It is worthy of notice that these vile odors always occur at the time of lowest tide. In certain states of the atmosphere—happily not very frequent—the vapors float at a very moderate height above the surface of the ground, and it is then that we perceive the havoc which it is their mission to work. We perceive them by the evidence of more than one of our senses; for they affect the nostril by their pungent odors, we see the result of their action upon newly painted buildings, and we can almost feel and taste them as they invade our domiciles. Sometimes they last for hours, banishing all comfort and endangering life, but more frequently they depart within a comparatively short time, and as mysteriously as they came. The peculiar condition of the atmosphere seems to have a vast deal to do with their becoming perceptible to human organs, and, as these conditions are exceedingly variable, no surprise should exist that the results are variable also. Probably, at most times the gases rise high in the air and float away, doing no harm to anybody or anything, but occasionally their flight is low, and it is then that they attack mankind and make us all miserable.

However this may be, there should be no pains or expense spared to make these inflections impossible. By a better system of drainage, and by a thorough supervision over all places where water is likely to accumulate and become stagnant, nearly the whole of these evils may become things of the past. As we have said, Boston is constantly befouling Charles river; Cambridge, Watertown, Brighton and Brookline are helping Boston. In Cambridge, only just over West Boston bridge, there is already a sink of corruption called Broad Canal, into which two of the largest sewers of that city empty. This canal connects directly with Charles river! All these causes of unwholesome influences are not only now in existence but are growing from day to day, from month to month and from year to year. They demand attention, and we ask you, as the guardian of the public health, to cry aloud and spare not! Speak of Miller's river if you will (remembering that it is being filled, however), but speak still more loudly of worse nuisances. We thank you for your article of last week, but many more just like it will be required before the great and much needed reform is brought about. Public attention has too long been fixed upon one spot, and that not the one which is doing the most harm, and every exertion should be made to ascertain true causes and apply true remedies.

JOHN P. SQUIRE & Co.

Boston, August 25, 1873.

## Medical Miscellany.

**APPOINTMENT.**—Dr. F. H. Gerrish, of Portland, has accepted an invitation to deliver a six months' course of lectures on materia medica and physiology in the Medical Department of the University of Michigan.

**MR. ERICHSEN**, the distinguished London surgeon, is now sufficiently recovered from his illness to appear in professional circles again. He will be prepared to commence work in October at University College.

THE announcement of the death of Nélaton, according to the *France Médicale*, is incorrect. The illustrious surgeon is, however, still very ill.

THE Strasburg Gazette announces that the female medical students, lately forbidden to attend the courses of the Zurich medical school, have applied to the university of Strasburg for permission to follow their studies there. The medical faculty has refused to receive them.

**COD-LIVER OIL BREAD.**—M. Bouchut, according to the French journals, has attempted to disguise the unpleasant taste of cod liver oil by combining it with flour in the form of bread. This bread is not at all disagreeable to the taste, and the results of M. Bouchut, from an experience of several weeks, are very encouraging.

**BELLEVUE HOSPITAL MEDICAL COLLEGE.**—Dr. W. A. Hammond has resigned his professorship. Dr. Janeway is to give the course on materia medica and therapeutics, in addition to the course on pathological anatomy. The diseases of the nervous system will be treated of by the Professor of the principles and practice of medicine.

**DR. SCHWEIGER** has been appointed Professor of ophthalmology in the Royal University of Berlin. The Universities of Göttingen and Griefswald are now the only German universities where professorships of ophthalmology are not established, and it is expected that these will soon follow the example of the others.—*Berliner Wochenschrift*.

THE trustees of Jefferson Medical College having requested Professor Joseph Pancoast to withdraw his resignation of the Chair of Anatomy in that institution, he has complied with the request, and will discharge the duties of the chair during the ensuing session.—*Medical Times*.

THE *Medical Times and Gazette*, in speaking of the late outbreak of typhoid fever, says "there is no evidence that the germs of a specific disease, such as typhoid, can be taken into the cow's system through the channel of sewage grass, be thence excreted by the mammary glands, and, producing no toxic effect upon the cow, can spread enteric fever amongst the children who drink the milk. Such a sequence of events is most likely impossible; but, if possible, there has been no outbreak of fever or other disease in this country which would warrant us in believing that it has taken place."

THE practical working of the theory of Dr. Hammond is seen in the case of David Montgomery, an epileptic, recently tried at Rochester, N.Y. It was proved that he was insane from recent convulsions for several days before the homicide; but, on Dr. Hammond's testimony that he was conscious at the time, he was convicted and sentenced to be hung. Drs. Gray and Cook testified to the familiar fact that epileptics often talk and act quite rationally for several days, being meanwhile really insane, and are afterwards entirely unconscious of what has passed, and denied the responsibility of the prisoner. The case was pending for a year and a half, the execution being postponed, until, finally, the prisoner became so evidently and completely demented as to require his commitment to the asylum for insane criminals at Auburn.—*Medical Times*.

In the catalogue of the medical department of Syracuse university are to be found the names of several lady students.

A CIRCULAR has lately been issued "to the surgeons (Field and Hospital) of the armies of the late Confederate States," calling a convention to meet in Atlanta, Georgia, May 20, 1874. Its object is the advancement of science—"to rescue from oblivion all the important medical and surgical facts developed within the armies of the Confederate States during the late war." Since the war, many of the most talented of the medical staff have died, and their valuable experience lost to the profession. The circular further states: "for the success of this great scientific and historical association it is earnestly recommended that the ex-confederate surgeons of each of the southern States at once take such steps as will secure a large delegation. The co-operation of the medical staff of the late confederate navy is respectfully solicited. Besides the contributions to science, the social features of this organization—the revival of old army associations—will be of no secondary interest. The railways of the south, with their usual courtesy, will no doubt grant excursion tickets for this most important occasion." This call is based not only upon the action of the Georgia Medical Association, but on the solicitations of many confederate surgeons throughout the south. We hope this convention will have the good sense not to follow the example of a certain society which met in Virginia lately.

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#### NOTES AND QUERIES.

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MESSRS. EDITORS,—I saw, in the Boston Medical and Surgical Journal of April 17, 1873, an article from F. B. Lewis, M.D. Harv., giving his experience in the excision of an elongated uvula, with probe-pointed scissors, with semicircular cutting edges, so as to embrace the uvula whilst closing it, made at his suggestion by W. F. Ford, New York. I want to say that I invented, and had made by Leach and Green, Boston, Mass., in July, 1868, a pair of long, thick, probe-pointed uvula scissors, curved near the points edgewise, so as to make semicircular edges that completely grasped the uvula before cutting it, and have used them ever since. I wrote a description of them to Prof. Lewis A. Sayre, of New York, about the same time. I presume Messrs. Leech and Green will make scissors at any time, from the same pattern, for any surgeon.

N. L. FOLSOM, M.D.

Portsmouth, N. H., August, 1873.

E. C. D., a subscriber to the JOURNAL, wishes to know the best work containing the latest and most reliable views on the treatment of diabetes.

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DIED,—At Canton, Sept. 6, of typhoid fever, Thomas W. Flatley, M.D., aged 30.

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#### MORTALITY IN MASSACHUSETTS.—Deaths in sixteen Cities and Towns for the week ending August 30, 1873.

Boston, 170—Charlestown, 26—Worcester, 19—Lowell, 36—Milford, 3—Chelsea, 10—Cambridge, 15—Salem, 11—Lawrence, 8—Springfield, 11—Lynn, 20—Fitchburg, 3—Newburyport, 12—Somerville, 8—Fall River, 25—Holyoke, 8. Total, 385.

Prevalent Diseases.—Cholera infantum, 110—consumption, 39—dysentery and diarrhoea, 23—typhoid fever, 10—scarlet fever, 13.

GEORGE DERBY, M.D.,  
Secretary of the State Board of Health.

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DEATHS IN BOSTON for the week ending Saturday, Sept. 6th, 176. Males, 90; females, 86. Accident, 2—apoplexy, 3—inflammation of the bowels, 1—bronchitis, 4—inflammation of the brain, 1—congestion of the brain, 1—disease of the brain, 4—cyanosis, 1—cerebro-spinal meningitis, 1—cancer, 4—cholera infantum, 38—cholera morbus, 2—consumption, 21—convulsions, 4—croup, 1—debility, 2—diarrhoea, 10—dropsy, 2—dropsy of the brain, 1—drowned, 1—dysentery, 2—diphtheria, 2—epilepsy, 2—scarlet fever, 10—typhoid fever, 5—bilious fever, 1—disease of the heart, 4—homicide, 1—intemperance, 1—disease of the kidneys, 5—disease of the liver, 2—congestion of lungs, 3—inflammation of the lungs, 5—marasmus, 13—noma, 1—old age, 3—premature birth, 5—puerperal disease, 2—stricture of the urethra, 1—teething, 3—unknown, 1.

Under 5 years of age, 97—between 5 and 20 years, 10—between 20 and 40 years, 29—between 40 and 60 years, 20—over 60 years, 20. Born in the United States, 128—Ireland, 32—other places, 16.